FEB 25 1974
CANADIANA

c2

PROVINCE OF
ALBERTA LEGISLATURE LIBRARY
3 3398 00433 3711

DEPARTMENT

OF

LABOUR

QUARTERLY BULLETIN

ELECTRICAL

INSPECTION

BRANCH

APRIL - 1961

GOVERNMENT OF THE
PROVINCE OF ALBERTA

TYPES OF FLEXIBLE CORDS REQUIRED FOR OILFIELD APPLICATIONS.

Since field experience has indicated that rapid deterioration occurs where rubber jacketed cords are used for installations falling within the scope of rules 53 and 54 of the "Regulations Governing Electrical Installations and Equipment in Oilfields" it is evident that materials more suitable for such applications are necessary.

Although the regulations do not specifically require that flexible cords be equipped with, for example, a polychloroprene oil resistant type of outer jacket, for applications in which the cord may be exposed to oil, reference is made in the Section 5 "Appendix" to the oil and weather resistant properties of certain types of cords, such as the "SO" types.

It is now quite apparent that rubber jacketed type "S" flexible cord deteriorates rapidly on exposure to both oil and the effects of sunlight and weather. In view of the increased evidence of oil damaged flexible cords noted during field inspections cords, when used for applications such as the connection of pressure switches, or those of any nature in which it is evident that they will be exposed to the separate or combined effects of oil and weathering, are to be of polychloroprene jacketed "SO" types suitable for the conditions encountered.

The polychloroprene jacketed Type "SO" cords are required by the Canadian Standards Association Testing Laboratories to be identified by means of one of the following markers provided on the outer surface of the cord:

(a) The type designation printed in ink, or embossed on the surface of the jacket at intervals of not more than 1 foot; or

(b) A single longitudinal groove or other approved means of identification on the surface of the jacket throughout the entire length of the cord.

PROVISION OF SEPARATE OUTLET BOXES FOR UTILITY RECEPTACLES RULE R26-104.

In view of the objections that have been expressed to the mounting of separate outlet boxes for utility receptacles in each area in the kitchen, because of the problems that this presents in applying the types of building materials that are peculiar to such areas, this question was discussed at the last Provincial Code Committee Meeting.

It was agreed that the use of two gang barriered boxes would obviate, to a great extent, the difficulties experienced in applying construction finishing materials where separate

boxes are mounted in close proximity to one another, and that this type of installation would meet the intent of Rule R26-104(4). Accordingly, the use of approved two gang barriered outlet boxes will be accepted for installations falling within the scope of the rule in question.

SERVICE EQUIPMENT LOCATION - HIGH POTENTIAL INSTALLATIONS.

Frequent enquiries are received concerning the application of Rule 8-022, as far as the service equipment location is concerned, particularly in cases where the service conduit or raceway is buried in a masonry, or concrete, wall, or extended under a cement slab floor of a building.

Rule 8-022 indicates that service equipment must be at the point of service entrance to the building. If the service conduit or raceway is separated from the interior of the building by masonry, or concrete, it may be considered as being outside the building as far as this rule is concerned. (See Rule 8-006, Clauses (3) and (4)). Exceptions to this interpretation may be made, and the service raceway may be considered as being within the premises even though it is separated from the inside of the building by masonry, if it is located in a tunnel or crawl space with other equipment, but each such instance would be judged on its own merits.

CONDUCTORS SUITABLE FOR USE WITH FLUORESCENT LIGHTING EQUIPMENT (CANADIAN ELECTRICAL CODE RULE 12-128(2).

Rule 12-128(2) indicates that conductors intended for use in raceways and which are extended into, and contained in, the same raceways as auxiliaries for fluorescent lighting must be of the thermoplastic and asbestos insulated types having a voltage rating of 600 (volts). Also, the conductors must have a maximum allowable conductor temperature of not less than 90°C (see Table 19 of the C.E. Code).

The latest edition of Canadian Standards Association Specification C22.2 #28, which became effective in July 1960, provides for the certification of a new type A-20 conductor, having a thermoplastic and asbestos insulation rated at 600 volts, 110°C, suitable for use in raceways. Accordingly, wires of this type along with the type A-18 conductors may be utilized for installations falling within the scope of the subject rule.

It is pointed out that A-1 wires certified under the revised specification have asbestos and varnished cloth insulation and do not meet the requirements of Clause (2) of Rule 12-128(2).

RESTRICTED USE OF TYPES RHH-90C and RHW-75C - 600 VOLT CONDUCTORS IN SIZES #4 to #1 AWG.

A bulletin was issued in April 1959, by the Canadian Standards Association Testing Laboratories, which advised that Types RHW-75C and RHH-90C wires and cables were eligible for certification in sizes #14 to #6 AWG inclusive, for general use.

Subsequently, investigations were conducted to determine whether conductors supplied with these types of insulations would be suitable for conductors of larger sizes when used in accordance with Rule 6-010(b) of the Canadian Electrical Code where the length of vertical runs of conduit would normally be limited to 30 ft. The tests conducted indicated that the foregoing types of wires would be suitable for service entrance applications up to size #1 AWG. The C.S.A. Laboratories have, therefore, now advised that they are prepared to authorize the labelling of single conductor, 600 volt, Type RHW-75C and RHH-90C wire in sizes #4 to #1 AWG inclusive, provided the marking tags include the wording "For service entrance applications only".

On the basis of the above information the subject types of wires will be acceptable for use in this Province for service entrance applications in accordance with Rule 6-010(b).

PROVINCE OF ALBERTA REQUIREMENTS FOR THE CERTIFICATION OF ELECTRICAL COMPONENTS AND THEIR APPLICATION ON GAS-FIRED EQUIPMENT.

In the October 1959 Alberta Quarterly Bulletin the basic categories were outlined under which electrical components and their assembly on gas-fired devices were acceptable for use within this Province.

Recent developments now permit the acceptance of, in addition to the conditions previously listed, electrical devices on gas-fired equipment examined and so listed by the "Underwriters Laboratories of Canada" provided that: The electrical components are individually certified by the "Canadian Standards Association"; and, the assembly and application of the components has been inspected and tested in accordance with applicable "C.S.A." requirements by the Underwriters Laboratories of Canada.